

wherein R_1 is CH_2 and R_2 is an alkyl group having up to about 6 halogen atoms, wherein said alkyl group has the formula $CHXCX_2CY_3$ where X is halogen or hydrogen and Y is fluorine, e.g., having specific radioactivity of the d comprised between 1 and 30 Ci/mmol, preferably between 1 and 20 Ci/mmol, preferably between 1 and 10 Ci/mmol. Such compounds, e.g., have the formula 2-(2-nitro-1H-imidazol-1-yl)-N-(3,3,3-trifluoropropyl) acetamide ($[^{18}F]$ -EF3) or 2-(2-nitro-1H-imidazol-1-yl)-N-(2,2,3,3,3-pentafluoropropyl) acetamide ($[^{18}F]$ -EF5) as worded in claims 1-4.